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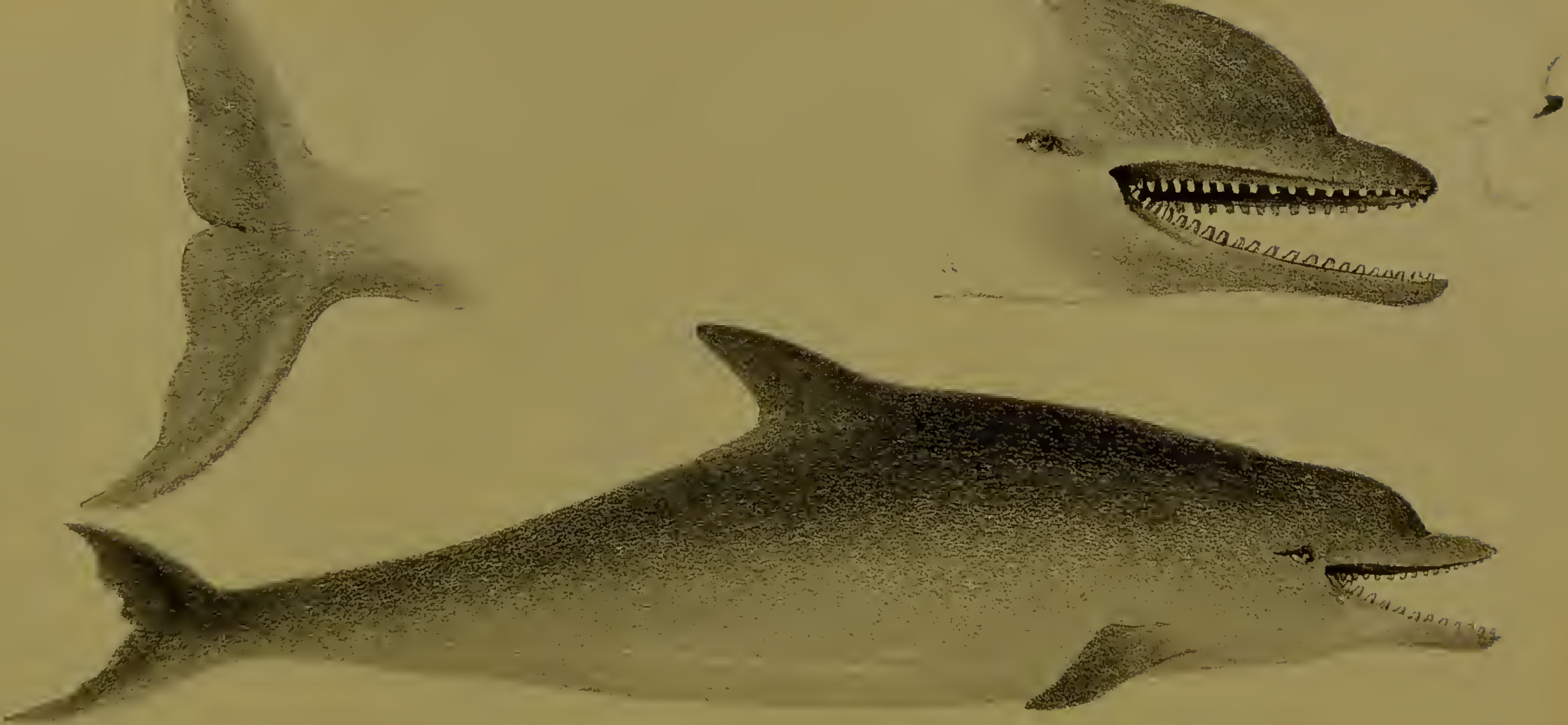

Delphinus Turgio, Fabr.
(*Bottle nosed Dolphin*)
Presented to the Museum of the Literary and Philosophical Institution Cheltenham
by the REV. W. M. KINSEY,
and described in the 2. Vol of the Magazine of Nat. History by
THOMAS WRIGHT ESQ.

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OBSERVATIONS

ON A RARE

BRITISH DOLPHIN.

By Thomas Wright, Esq., M.R.C.S.,

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CHELTENHAM DISPENSARY.

(From the Magazine of Natural History, New Series.)

Impressed with the value of every new fact illustrative of the organisation, history, and geographical range of British *Cetacea,* I send for insertion in your Magazine the following observations on a rare species of dolphin, *Delphinus Tursio,* shot near Torquay. The individual now before me is the second or third specimen of this species which has been captured within the geographical limits of the British *Fauna.*—The fact that troops of four or five individuals are frequently seen in company off the southern coast of Devon, sanctions the inference that *Delph. Tursio* ought to be considered as an indigenous species; whilst a probable reason for its extreme rarity may be found in the enormous locomotive powers which it possesses, swimming with inconceivable velocity in pursuit of prey, or seeking a temporary refuge in the silent depths of the ocean on the most distant approach of an enemy.

The capture and preservation of this specimen I regard as an acquisition to British Zoology, inasmuch as it may serve to clear up some doubts as to the identity of the small bottle-nose whale of Hunter, and *Delph. Delphis* of the schools, and likewise whether *Delph. truncatus* of Montague is the *Delph. Tursio* of Fabricius, or ought rather, from the shortness of its muzzle, to be referred to the *Phocæna* of Cuvier.

On the 3rd of September, 1838, whilst the Rev. Mr. Kinsey and party were sailing off Torquay, they observed four cetaceans near the vessel, which were recognised to be the same that had, for several days before, been seen from the shore. As the party approached them it was found that one of the troop had got partially entangled in the line of a net; and W. London, the Rev. Mr. Kinsey's servant, succeeded in lodging a ball in the left side of its head, and others in different parts of the trunk; the vital fluid flowed profusely from the wounds, and the piteous sobs and moans of their victim announced that the conflict had been fatal to the vanquished. At the commencement of the rencontre, the three companions of the deceased, which were about the same size, and of the same species, passed under the lines and bounded up the coast with inconceivable velocity, leaving the party several miles off in the short space of a few minutes. As soon as the vital spark was extinct, a thick rope was cast round the tail of the dolphin, and it was safely towed ashore by the united strength of seven men. The specimen proved to be a female, and measured *eleven feet in length, and five feet six inches in circumference* at the dorsal fin. It is important to note these particulars, as the salting of the skin to preserve it for exportation has caused it to shrink considerably.

The skin was first carefully dissected off, leaving the skull, fins, and tail *in situ*. The adipose layer yielded about five gallons of good oil. The skin, when freed from the *viscera*, weighed 120 lbs., and was forwarded by the Rev. Mr. Kinsey as a contribution to the Museum of the Literary and Philosophical Institution of Cheltenham. Having for some years past taken an active part in the zoological department of our Institution, the specimen was forwarded to my house for inspection; and after an attentive examination of its generic and specific characters, I decided that it was a fine female of a rare British dolphin, *Delphinus Tursio*, Fabr.

The authentic facts which we possess relating to this interesting species, considered as belonging to the British *Fauna*, being exceedingly meagre, I regard the capture of the subject of this paper as a great acquisition to our knowledge of native *Cetacea*. These dolphins are frequently seen sporting in the water not far from the shore, along the coasts of Devon and Somerset; but no individual of the same species had ever been seen ashore by those who are well acquainted with the oceanic natives of the Devon coast. The only authentic notice of a species approaching in its characters the one now before me, is the individual captured in Duncannon Pool, near Stoke Gabriel, about five miles up the River Dart, in July, 1814; an account of which was published by Col. Montague in the Wernerian Memoirs,* and described by that excellent and industrious naturalist under the name of *Delphinus truncatus*. It was 12 feet in length, and 8 feet in circumference, and measured from the snout to the blowhole 14½ inches. The summits of the teeth were even with the gums, and it was of a black colour above, and whitish below; the skull, including the upper jaw, measured 20½ inches, and the breadth across the posterior molares was 5 inches; on each side there were sockets for 20 teeth; the lower jaw was longer than the upper, and contained 23 teeth on each side. The sockets were variable in size, and without order, showing that some teeth were double the size of others, whilst the approximation of the sockets evinced the contiguity of the teeth, so that the teeth of both jaws must have opposed their surfaces to each other.†

This imperfect sketch of Col. Montague's specimen is, I trust, sufficient to enable me to show that the cetacean captured in the Dart was not the true *Delphinus Tursio* of Fabricius, if we may be allowed to judge from a comparison of the measurement of Montague's specimen with the fine perfect one now before me. Thus, Montague gives 12 feet in length and 8 feet in circumference as the proportional measurement of *Delph. truncatus*; that now before me was 11 feet long by 5½ in circumference: from the snout to the blowhole of the cetacean of the Dart was 14½ inches; the subject of this paper measures 16½ inches from the extremity of the *rostrum* to the centre of the breathing-hole. The teeth in Montague's were approximated; the teeth in our specimen are set in distinct *alveoli* at definite intervals apart from each other: the teeth in *Delph. Truncatus* were unequal, some being double the size of others; those in our specimen are equal in volume throughout, except the two anterior of both jaws, which appear to have recently pierced the gum: the teeth of *Delph. Tursio* lock into each other, although they have frequently opposed their surfaces, as indicated by the worn appearance which their blunt summits present. From the dissimilarity in the specific characters shown by this parallel, it is a question with me how far we are justified in regarding, as some have done,‡ the cetacean captured in the Dart as identical with the *Delph. Tursio* of Fabricius.

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* Vol. iii. page 75. *tab.* 3.

† Fleming's 'British Animals,' page 35.

‡ Fleming's 'Br. Animals.' Turton & Kingston's 'Nat. Hist. of Devon.'

The whale caught in the Severn near Berkeley, and forwarded by the immortal Jenner to the equally immortal John Hunter, and described and figured by the latter in the 'Philosophical Transactions'* under the name of "the small bottle-nose whale," is, I think, on comparing the figure with our specimen, not *Delph. Delphis,* as supposed by Hunter† and Fleming,‡ but the *Delph. Tursio* of Fabricius. In fact, Hunter's figure§ of his small bottle-nose whale is a tolerable representation of our specimen; the dorsal fin in his drawing is, however, placed nearer to the muzzle than the tail, whereas in our specimen that organ is situated six inches nearer to the tail than the *rostrum*; another error consists in the situation of the pectoral fins, which in the specimen, are closely approximated to the angle of the lower jaw, and placed very low down; but they are figured at a considerable distance from those parts; and the body, from the dorsal fin to the tail, is not so conical as in the preparation. The eye is likewise placed rather too high, and the convexity of the frontal eminence is not sufficiently defined.

Not having at the present moment an opportunity of referring to Professor Bell's beautiful volume on 'British Quadrupeds,' I am unable to state whether that excellent naturalist has added any new facts to our knowledge of *Delph. Tursio* since the appearance of Professor Fleming's Synopsis. I have drawn up with great care the accompanying table, and only regret that it has not been in my power to add more that is really new concerning the internal organisation of this rare British cetacean.

DESCRIPTION.

The body of the Dolphin was of a bright bluish black above and along the flanks, and of a pure white beneath. The diameter of the body gradually increases from the neck to the anterior origin of the dorsal fin, where it attains its *maximum.* At the posterior root of that organ the circumference is less, and from this point to the origin of the caudal fin it becomes more and more slender. A section of the body made at the dorsal fin would represent an elongated cone, with its *apex* turned backward.

The following tables exhibit the dimensions of the stuffed specimen.

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* 'Phil. Trans.' 1787, p. 450, *tab.* 18.

† 'Phil. Trans.' lxxvii. *tab.* 18.

‡ 'Phil. Trans. lxxvii. 1787,

§ 'British Animals,' p. 35.

BODY.

	FT.	IN.
From the extremity of the muzzle to the termination of the caudal lobes	8	10
Circumference of the neck	3	8
Ditto at the anterior origin of the dorsal fin	4	6
Ditto at the posterior root of the dorsal fin	4	1
Ditto midway between the dorsal and caudal fins	2	7
Ditto at the origin of the caudal lobes	1	2

HEAD.

Forehead convex; from its base the superior *maxillæ* are abruptly developed to form a slender elongated muzzle, with a blunt rounded extremity, and having a slight inclination upwards.

	FT.	IN.
Length from the *symphysis*, over the frontal eminence, to the posterior boundary of the blow-hole	1	4½
Length of the *rostrum*	,,	4½
Ditto from the base of the frontal eminence to the blow-hole	1	0
Ditto across the forehead to the base of the upper jaw	1	5
Circumference of the *rostrum*, mouth closed	1	3
Length of the upper *maxilla* from the last molar to *symphysis*	,,	11½
Width across the last inferior *molares*	,,	4¾

LOWER JAW.

The inferior *maxilla* is half an inch longer than the upper; its branches are slightly arched upwards, and gradually approach to form a blunt beak at the *symphysis*.

	FT.	IN.
Length from the last molar to the symphysis	1	0
Width across the last inferior molares	,,	4¼

TEETH.

In the right superior *maxilla* 21; in the left 19, and two empty sockets. In the lower jaw there are 21 in each *ramus*.

EYE.

This organ is placed nearly on a line with the angle of the mouth, and immediately below the nostrils; the eye-lids are 1¼ inch in diameter; and the distance from the inner angle of the eye to the extremity of the muzzle is 14 inches; from the upper eye-lid to the centre of the blow-hole is 7½ inches.

BLOW-HOLE.

This aperture is situated at the summit of the head, above the orbits; the valve is of a semilunar form, the convexity of which looks backwards, and is 1 inch in length, and 1½ in breadth.

ANTERIOR EXTREMITIES.

These organs of locomotion are situated very low down towards the under part of the *thorax;* and are—

	ft.	*in.*
Distant from the extremity of the muzzle......	1	9
Length of the anterior fin....................	1	4
Breadth of the *carpus*........................	,,	6
Circumference of the carpus..................	1	1

DORSAL FIN.

This organ rises about the middle of the back, but rather nearer to the tail than the snout; it is of a triangular form, inclined backwards, convex along its anterior and concave at the posterior border. The anterior root emerges, by a thick fold of the common integument, at the distance of 3 feet 10 inches from the extremity of the muzzle, whilst its posterior root is inserted at 3 feet 6 inches from the extreme expansion of the tail. A prominent ridge extends from the posterior root to the distance of 8 inches, where it gradually becomes lost, but rises again into a well-defined *raphe* at about 18 in. from the termination of the vertebral column. Its surface is partially notched, and it serves to separate the caudal lobes.

	ft	*in.*
Length of the dorsal fin along its anterior border	1	5
Ditto along its posterior margin	1	0
Expansion of the base of this organ..........	1	4

TAIL.

The caudal fin is composed of two distinct lateral lobes: each arises by a distinct root: when viewed conjointly they describe a crescent, the concavity of which is turned backwards. The extreme lateral expansion of the lobes is 22 inches, and each lobe measures from the *raphe* to its extremity, 1 foot.

CHARACTER OF THE TEETH.—Having already announced that each side of both jaws contains 21 teeth it remains for me to make a few observations on the general character of these prehensile instruments, as one of the most important specific characters is obtained from their form and disposition.

The five posterior molars of both jaws are conical recurved spines, the convex surfaces of which look outwards: they terminate in sharp points, which have been but partially blunted. The remaining sixteen are conical stumps, the *apices* of which are truncated. From an attentive examination of these instruments it would appear that when the teeth originally pierced the gum, they had *a conical form, with sharp-pointed summits*, which have, however, been subsequently worn down by friction against their antagonists of the opposite jaw.—Although the teeth are disposed in distinct *alveoli*, set apart from each other, so as mutually to lock into the spaces which intervene between them, still nevertheless, the eleven anterior molars have lost at least one half of the original length of their crowns by this denuding process. The anterior aspect of the teeth of the lower jaw, and the posterior surfaces of those of the upper, likewise have a portion of their enamel and ivory obliquely chiselled away, in consequence of the antagonising teeth having frequently rubbed against each other. These instruments are nearly all of a uniform size throughout, and are embedded, as I have already observed, in distinct *alveoli*, at the distance of a quarter af an inch apart; the four internal incisors of both jaws are much smaller then the others, and the two anterior teeth appear almost rudimentary. The truncated summits of the molares look obliquely downwards and inwards; and this natural section displays to great advantage the rind of dense enamel enclosing the concentric rings of ivory. This substance, however, has lost its natural cream colour, and become much darkened from exposure to the air and water.

It may be very justly asked, how does it happen that teeth which lock into corresponding spaces of the opposite jaw, become thus blunted? To solve the problem it were necessary that a careful examination should be made of the form of the *condyles* of the lower jaw, and the glenoid cavity of the temporals; for it is evident that in order to effect the abrasion which I have described, it was necessary that the teeth should have frequently opposed their crowns to each other, and that there may be in the articulation of the lower jaw of this species a special provision for vertical and lateral movement; and it may likewise admit of motion in the antero-posterior direction. In consequence of the condition of the parts concerned in these movements when I received the specimen, it was impossible to ascertain their anatomical structure.

Since the above was written, I have had an opportunity of consulting the 4th vol. of Palmer's edition of Hunter's works, with notes by Professor Owen. At page 334 that learned anatomist observes,—"the small bottle-nose whale of Hunter is not the common dolphin, *Delphinus Delphis*, Linn., but the *Delph. Tursio*, Fabr., as is shown by the skull and other parts which are preserved in the Hunterian collection, as well as by the size of the specimen which Hunter describes."

Delphinus Delphis, Linn.	*Delphinus Tursio*, Fabr.
Is from *six* to *seven* feet in length, and has in each side of each jaw from 42 to 47 sharp conical teeth.	Is from *ten* to *eleven* feet in length, and has in each side of each jaw from 21 to 23 teeth, generally blunted by friction.

Professor Bell's 'British Quadrupeds' has likewise come to hand. His figure, which is a reduced copy of Hunter's, is liable to the objections already made to the original. Another instance of the occurrence of this species in our seas is adduced on the authority of Jenyns; it was taken in the river at Preston, and was 11 feet in length, and 7 feet 4 inches in circumference. Prof. Bell has admitted with doubt the identity of this species with the *Delph. truncatus*, of Montague. It has afforded me much pleasure to find that the views of these learned zoologists harmonise with the opinions I had formed from a careful examination of the individual which forms the subject of the present paper, before I became acquainted with the sentiments recorded in their respective works just quoted.

Nuneham House, Cheltenham,
October 8th, 1838.

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